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SEQUENCE LISTING

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DONOVAN, Gerald P.

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SCHUELKE, Norbert

GARDNER, Jason

MA, Dangshe

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<210> 14

<211> 481

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

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<210> 15

<211> 142

<212> PRT

<213> Homo sapiens

<400> 15

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Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Val Val Gln
20 25 30

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ala Phe
35 40 45

Ser Arg Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85 90 95

Thr Gln Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Gly Gly Asp Phe Leu Tyr Tyr Tyr Tyr Gly
115 120 125

Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
130 135 140

<210> 16

<211> 463

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

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<210> 17

<211> 127

<212> PRT

<213> Homo sapiens

<400> 17

Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp Leu Pro
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Asp Thr Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
20 25 30

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly
35 40 45

Ile Ser Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Thr Gly Lys Val Pro
50 55 60

Lys Phe Leu Ile Tyr Glu Ala Ser Thr Leu Gln Ser Gly Val Pro Ser
65 70 75 80

Arg Phe Ser Gly Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
85 90 95

Ser Leu Gln Pro Glu Asp Val Ala Thr Tyr Tyr Cys Gln Asn Tyr Asn
100 105 110

Ser Ala Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
115 120 125

<210> 18

<211> 508

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

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cgtggtccag cctgggaggt ccctgagact ctcctgtgca gcgtctggat tcaccttcag 180
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cacggctgtg tattactgtg cgggtggata taactggaac tacgagtacc actactacgg 420
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<210> 19

<211> 143

<212> PRT

<213> Homo sapiens

<400> 19

Met Glu Leu Gly Leu Arg Trp Val Leu Leu Val Ala Leu Leu Arg Gly
1 5 10 15

Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Val Val Gln
20 25 30

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Ser Asn Tyr Val Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Val Ala Ile Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Gly Gly Tyr Asn Trp Asn Tyr Glu Tyr His Tyr Tyr
115 120 125

Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
130 135 140

<210> 20

<211> 463

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 20

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cctgcagcct gaagattna caacttatta ctgccaacag tataatagtt acccgatcac 360

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<210> 21

<211> 127

<212> PRT

<213> Homo sapiens

<400> 21

Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Cys Phe Pro
1 5 10 15

Gly Ala Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
20 25 30

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly
35 40 45

Ile Thr Asn Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro
50 55 60

Lys Ser Leu Ile Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser
65 70 75 80

Lys Phe Ser Gly Ser Gly Thr Asp Phe Ser Leu Thr Ile Ser
85 90 95

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn
100 105 110

Ser Tyr Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
115 120 125

<210> 22

<211> 490

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

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<210> 23

<211> 145

<212> PRT

<213> Homo sapiens

<400> 23

Met Glu Leu Gly Leu Ser Trp Val Phe Leu Val Ala Leu Leu Arg Gly
1 5 10 15

Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
20 25 30

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Asp Trp Val Ala Ile Ile Trp His Asp Gly Ser Asn Lys Tyr Tyr Ala
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Lys
85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Ala Trp Ala Tyr Asp Tyr Gly Asp Tyr Glu Tyr
115 120 125

Tyr Phe Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser
130 135 140

Ser
145

<210> 24

<211> 463

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

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cagagtcacc atcacttgtc gggcgagtca gggcatttagc cattatttag cctggtttca 180
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ggtcccataa aagttcagcg gcagtggatc tggacagat ttcaactctca ccatcagcag 300
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<210> 25

<211> 127

<212> PRT

<213> Homo sapiens

<400> 25

Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Cys Phe Pro
1 5 10 15

Gly Ala Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
20 25 30

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly
35 40 45

Ile Ser His Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro
50 55 60

Lys Ser Leu Ile Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser
65 70 75 80

Lys Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
85 90 95

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn
100 105 110

Ser Phe Pro Leu Thr Phe Gly Gly Thr Lys Val Glu Ile Lys
115 120 125

<210> 26

<211> 469

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 26

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gaagatctcc tgtaagggtt ctggatacag ctttaccagt tactggatcg gctgggtgcg 180

ccagatgcc gggaaaggcc tggagtggat ggggatcatt tatcctggtg actctgatac 240

cagatacagc ccgtccttcc aaggccaggt caccatctca gccgacaagt ccatcagcac 300

cgccctacctg cagtggagca gcctgaaggc ctcggacacc gccatgtatt actgtgcgag 360

acggatggca gcagctggcc cctttgacta ctggggccag ggaaccctgg tcaccgtctc 420
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<210> 27
<211> 138
<212> PRT
<213> Homo sapiens
<400> 27

Met Gly Ser Thr Val Ile Leu Ala Leu Leu Leu Ala Val Leu Gln Gly
1 5 10 15

Val Cys Ala Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
20 25 30

Pro Gly Glu Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe
35 40 45

Thr Ser Tyr Trp Ile Gly Trp Val Arg Gln Met Pro Gly Lys Gly Leu
50 55 60

Glu Trp Met Gly Ile Ile Tyr Pro Gly Asp Ser Asp Thr Arg Tyr Ser
65 70 75 80

Pro Ser Phe Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile Ser
85 90 95

Thr Ala Tyr Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met
100 105 110

Tyr Tyr Cys Ala Arg Arg Met Ala Ala Ala Gly Pro Phe Asp Tyr Trp
115 120 125

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
130 135

<210> 28
<211> 466
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide
<400> 28

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tatcccagcc	aggttcagtg	gcagtgggtc	tgggacagag	ttcacatctca	ccatcagcag	300
cctgcagtct	gaagattctg	cagtttatta	ctgtcagcat	tatgataact	ggcccatgtg	360
cagtttggc	caggggaccg	agctggagat	caaacgaact	gtggctgcac	catctgtctt	420
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<210> 29

<211> 128

<212> PRT

<213> Homo sapiens

<400> 29

Met	Arg	Val	Pro	Ala	Gln	Leu	Leu	Phe	Leu	Leu	Leu	Leu	Trp	Leu	Pro
1					5				10				15		

Asp	Thr	Thr	Gly	Gly	Ile	Val	Met	Thr	Gln	Ser	Pro	Ala	Thr	Leu	Ser
					20			25				30			

Val	Ser	Pro	Gly	Glu	Arg	Ala	Thr	Leu	Ser	Cys	Arg	Thr	Ser	Gln	Ser
					35			40			45				

Ile	Gly	Trp	Asn	Leu	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Ala	Pro
			50			55				60					

Arg	Leu	Leu	Ile	Tyr	Gly	Ala	Ser	Ser	Arg	Thr	Thr	Gly	Ile	Pro	Ala
65					70				75			80			

Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Glu	Phe	Thr	Leu	Thr	Ile	Ser
					85				90			95			

Ser	Leu	Gln	Ser	Glu	Asp	Ser	Ala	Val	Tyr	Tyr	Cys	Gln	His	Tyr	Asp
					100				105			110			

Asn	Trp	Pro	Met	Cys	Ser	Phe	Gly	Gln	Gly	Thr	Glu	Leu	Glu	Ile	Lys
			115			120						125			

<210> 30

<211> 487

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 30

ggatctcacc	atggagtttg	ggctgtgctg	gattttcctc	gttgctcttt	taagaggtgt	60
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ccagtgtcag gtgcagctgg tggagtctgg gggaggcgtg gtccagcctg ggaggtccct 120
gagactctcc tgtgcagcct ctggattcac ctcatttgc tatggcatgc actgggtccg 180
ccaggctcca ggcaaggggc tggagtgggt ggcagttata tcataatgtg gaagtaataa 240
atactatgca gactccgtga agggccgatt caccatctcc agagacaatt ccaagaacac 300
gctgtatctg caaatgaaca gcctgagagc tgaggacacg gctgtgtatt actgtgcgag 360
agtatttagtggagctttat attattataa ctactacggg atggacgtct ggggccaagg 420
gaccacggtc accgtctcct cagcctccac caagggccca tcggcttcc ccctggcacc 480
ctcttagc 487

<210> 31

<211> 144

<212> PRT

<213> Homo sapiens

<400> 31

Met Glu Phe Gly Leu Cys Trp Ile Phe Leu Val Ala Leu Leu Arg Gly
1 5 10 15

Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Val Val Gln
20 25 30

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Ile Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Val Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Val Leu Val Gly Ala Leu Tyr Tyr Tyr Asn Tyr
115 120 125

Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
130 135 140

<210> 32

<211> 478

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 32

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gccggcctcc atctcctgca agtctagtca gagcctcctg catagtgtat gaaagacctt 180
tttgtattgg tatctgcaga agccaggcca gcctccacag ctcctgatct atgaggttc 240
caaccggttc tctggagtgc cagatagggtt cagttggcagc gggtcaggaa cagatttcac 300
actgaaaatc agccgggtgg aggctgagga tgttgggctt tattactgca tgcaaagtat 360
acagcttccg ctcactttcg gcggaggac caaggtggag atcaaacgaa ctgtggctgc 420
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<210> 33

<211> 132

<212> PRT

<213> Homo sapiens

<400> 33

Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Ile Pro
1 5 10 15

Gly Ser Ser Ala Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser
20 25 30

Val Thr Pro Gly Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser
35 40 45

Leu Leu His Ser Asp Gly Lys Thr Phe Leu Tyr Trp Tyr Leu Gln Lys
50 55 60

Pro Gly Gln Pro Pro Gln Leu Leu Ile Tyr Glu Val Ser Asn Arg Phe
65 70 75 80

Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Thr Asp Phe
85 90 95

Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Leu Tyr Tyr
100 105 110

Cys Met Gln Ser Ile Gln Leu Pro Leu Thr Phe Gly Gly Thr Lys
115 120 125

Val Glu Ile Lys

130

<210> 34

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 34
gaagatctca ccatg 15

<210> 35

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 35
aactagctag cagttccaga tttcaactgc tcatcagat 39

<210> 36

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 36
gaagatctca ccatg 15

<210> 37

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 37

gctctagagg gtgccagggg gaagaccgat

30

<210> 38

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Peptide

<400> 38

Ser Ala Thr Gly Ser Lys Leu Gln Glu Asp Ser
1 5 10

<210> 39

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Peptide

<400> 39

Arg Ser Pro Ala Leu Pro Phe Val Ser
1 5